

REMARKS/ARGUMENTS

Reconsideration and allowance of the above-referenced application are respectfully requested.

Claims 50-53 have been amended. Support for the phrase "histidine box region" may be found by looking at the amino acid sequences of the proteins of interest combined with the knowledge of ordinary of ordinary skill in the art. In other words, a skilled artisan may readily identify a histidine box region appearing within any polypeptide sequence.

Rejection of Claims 50-53 Under 35 U.S.C. 112, First Paragraph

The Examiner has maintained the rejection of claims 50-53 under 35 U.S.C. 112, first paragraph.

The Examiner's Position

The Examiner contends that the specification, while being enabling for polynucleotides encoding the polypeptides of SEQ ID NO:63 or SEQ ID NO:64, does not reasonable provide enablement for polynucleotides encoding polypeptides having elongase activity wherein the polypeptides are at least 70% sequence similar to the polypeptides of SEQ ID NO:63 or SEQ ID NO:64, or polynucleotides encoding polypeptides having elongase activity wherein said polypeptides are at least 60% sequence identical to the polypeptides of SEQ ID NO:63 or SEQ ID NO:64.

The Applicant's Position

The Applicants respectfully traverse the rejection of claims 50-53 under Section 112, first paragraph.

Applicants, again, submit that the attached Declaration of Amanda Leonard establishes the correlation

between structure and function in connection with known elongases, thereby supporting the 70% similarity recitation in claims 50 and 51, as well as the 60% identity recitation in claims 52 and 53. In particular, the Declaration of co-inventor Leonard establishes the region of known elongases (i.e., the histidine box region) which is critical for the protein to properly function as an enzyme (i.e., to add two carbon atoms to the substrate) and the sequence identity that any elongase must have to either the histidine box region of amino acid sequence of SEQ ID NO:63 or SEQ ID NO:64 in order to maintain such function. To clarify, percent identity or similarity is in reference to the histidine box region of the protein sequence of interest, not to the full length protein sequence.

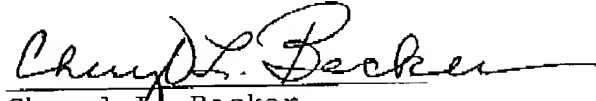
To summarize, based upon the information presented in the Declaration, that which is currently known in the art based upon written documents (published subsequent to the filing of the application) and the skill of the artisan in the field, claims 50-53 reciting polynucleotides (which encode elongases having the claimed properties) are fully enabled. Only specific polynucleotide sequences have the ability to encode the recited polypeptides.

In view of the above, it is submitted that the rejection of claims 50-53 under 35 U.S.C. 112, first paragraph has been overcome and should be withdrawn accordingly.

It is submitted that the subject application is in condition of allowance and Notice to that effect is respectfully requested.

Further, should the Examiner have any questions relating to the above, she is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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